



REMARKS

The Office Action mailed on March 27, 2003, has been reviewed and the comments of the Patent and Trademark Office have been considered. Prior to this paper, claims 1, 2, 4-8, 10, 13 and 16-35 were pending in the application. By this paper, Applicant cancels claim 1 without prejudice or disclaimer and adds claims 36-50. Therefore, claims 2, 4-8, 10, 13 and 16-50 are now pending in the present application.

Applicant respectfully submits that the present application is in condition for allowance for the reasons that follow.

Election/Restriction

Applicant respectfully traverses the constructive election of claims 19-34. Applicant notes that the Office Action contains no basis for the restriction. No provision of the MPEP is cited to support why the proffered rationale for the applicability of a restriction/election requirement is appropriate to these claims. This is not surprising, as claims 19-34 do not claim an invention of a different statutory category than the claims previously presented in the application, nor do they cover a mutually exclusive species of the present invention. Instead, claims 19-34 simply cover different aspects of the same subject matter/invention as is claimed in the other claims present in this application. Since claims 19-34 are not properly restrictable from the other claims in this case, Applicant respectfully requests reconsideration and withdrawal of the restriction/election requirement.

Allowable Subject Matter

Applicant thanks Examiner Gonzalez for allowing claims 16-18.

Rejections Under 35 U.S.C. § 112, First Paragraph

Claims 1, 2, 4-8, 10, 13 and 35 stand rejected under 35 U.S.C. § 112, first paragraph, "as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Specifically, the Office

Action states that the “claims disclosed that the flux *is not directed to the coils of the stator*. The specification is not clear as to how the main flux *is not directed towards the coils*.” (Office Action, page 3, emphasis added.)

As seen above, claim 1 has been cancelled and claims 2, 4-8, 10 and 13 have been amended to depend from an allowable claim. Thus, the rejection is moot in regard to these claims.

In regard to claim 35, Applicant respectfully submits that the claim contains no such recitation. Applicant also respectfully submits that the specification does indeed convey to one skilled in the art that applicant had possession of the claimed invention at the time the application was filed. Applicant respectfully requests reconsideration of the rejection.

Rejections Under 35 U.S.C. §112, Second Paragraph

In the Office Action, claims 1, 2, 4-8, 10, 13 and 35 stand rejected under 35 U.S.C. §112, second paragraph, as being indefinite.

Applicant first notes that regarding this rejection, the Office Action directs its attention entirely towards claim 1. As seen above, claim 1 has been cancelled and claims 2, 4-8, 10 and 13 have been amended to depend from an allowable claim. Because the allowable claim does not contain the rejected language of claim 1, the rejection is moot in regard to these claims.

In regard to claim 35, Applicant notes that the claim does not depend from claim 1, thus the §112 second paragraph rejection of claim 35 is not addressed in the Office Action. That is, other than listing the claim as rejected, the Office Action is silent in regard the exact reason why this claim was allowed.

In order to advance prosecution, however, Applicant has assumed *arguendo* that the arguments recited in the Office Action against the patentability of claim 1 were applicable to claim 35. Applicant respectfully submits that such a rejection would be impermissible as a matter of law. Claim 35 does not contain a broad range or recitation together with a narrow range or recitation that falls within the former. The Office Action cites the language “a magnetic pole position detector for a rotor that has a plurality of magnets disposed on a

circular periphery,” as a broad recitation, and the language “and forms a part of an electric motor that has a stator provided with a plurality of coils, the detector comprising” as the narrower recitation. Applicant respectfully submits that this does not constitute a narrow recitation falling within a broader recitation.

Applicant notes that the Office Action relies on *Ex parte Wu*, and recites that “broad language [that] is followed by ‘such as’ and then narrow language . . . can render a claim indefinite by raising a question or doubt as to whether the feature introduced by such language is (a) *merely exemplary* of the remainder of the claim, and therefore not required, or (b) a required feature of the claims.” (Office Action, page 4, emphasis added.) Applicants respectfully point out that claim 35 does not use exemplary language (e.g., such as, for example, etc.). Further, the identified language is contained in a preamble, and the PTO must analyze preambles differently than the elements of the body of the claim. (See MPEP § 2111.02, entitled “Weight of Preamble.”)

Applicant respectfully requests reconsideration of the rejection under 35 U.S.C. §112, second paragraph. If the rejection is presented in a future office action, Applicant requests that the examiner please explain how the language of the preamble can be interpreted as indefinite.

Claim Rejections Under 35 U.S.C. §103(a)

In the Office Action, Claims 1, 2 and 4-8 were rejected under 35 U.S.C. §103(a) as being unpatentable over Nagate (USP 5,864,192) in view of Shinohara (US Pub. 2001/0013731) and further in view of Radomski (USP 4,959,577), while claim 10 was rejected as being obvious in view of these references and Masuzawa (Unidentified Reference). Claim 13 was rejected under the first three references when combined with the knowledge of one of ordinary skill in the art. Applicants note that claim 1 has been cancelled, and claims 2 and 4-8, 10 and 13 are now dependent on an allowed claim. Because none of the cited references disclose, teach, or suggest each and every element of the allowed claims, claims 2 and 4-8, 10 and 13 are allowable.

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In the Office Action, Claim 35 was rejected under 35 U.S.C. §103(a) as being unpatentable over Nagate (USP 5,864,192) in view of Shinohara (US Pub. 2001/0013731), in view of Radomski (USP 4,959,577), and further in view of Stephens (USP 5,773,908). Applicants respectfully submit that the rejection is improper, and that claim 35 is allowable for at least the following reasons.

Applicants rely on MPEP § 2143, which states that:

[t]o establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations.

It is respectfully submitted that at least the first and third criteria of MPEP § 2143 have not been met in the Office Action.

The Cited References Do Not Suggest All Claim Recitations

Even if the first requirement of MPEP § 2143 was satisfied in the Office Action (which it is not, as explained below), the cited references not meet the third requirement, which is that the prior art reference (or references when combined) must teach or suggest all the claim elements.

As conceded in the Office Action, Nagate, Shinorara and Radomski, alone or together, do not disclose plates that are fixed to a rotor via a non-magnetic material. Stephens is cited as teaching this missing element. However, claim 35 has been amended to include the recitation that the plates are “fixed on an outer periphery of the rotor;” a recitation that is not disclosed, taught or suggested by any of the references.¹

¹ Support for this can be found in the specification in the second full paragraph on page 14 of the specification, and in Figs. 14 and 15.

Figs. 14 and 15 show an exemplary embodiment of a rotor according to the present invention having plates fixed on an outer periphery of the rotor via a non-magnetic material. As can be seen from Figs. 14 and 15, a “collar 420 made of non-magnetic materials is fitted on an outer periphery of the rotor 401. Plates 430 are made of magnetic materials are fixed at equal angular intervals to the outer periphery of the end plate 420.” (Specification, page 14, lines 17 to 19.)

In contrast to the invention of claim 35, none of the cited references teach the just recited configuration. Stephens, the reference introduced as teaching plates made of magnetic material that are fixed to the rotor via a non-magnetic material, only teaches that the magnetic plates 212 are disposed on an end face of a rotor core. It does not disclose, teach, or suggest that the plates are fixed on an *outer periphery* of the rotor via a non-magnetic material. Radomski and Shinohara are silent in regard to a teaching of magnetic plates, and are thus silent in teaching plates fixed to a rotor via a non-magnetic material. Nagate, the primary reference, likewise fails to disclose, teach or suggest magnetic plates fixed on an *outer periphery* of the rotor via a non-magnetic material. Indeed, the magnetic pole portions 8a of Nagate, identified in the Office Action as satisfying the “plate” recitation, completely envelop the magnets and form the rotor. That is, they are not “fixed on an outer periphery of the rotor.” Still further, the pole portions 8a are not “fixed on an outer periphery of the *rotor via a non-magnetic material*,” as the plates form the rotor and are directly attached to the rotor shaft.

In sum, even if the first requirement of MPEP § 2143 is satisfied, the third requirement of MPEP § 2143 is not satisfied in the Office Action, since the cited references, alone or in combination, do not teach each and every element of the present invention. Thus, the present claims are allowable.

Lack of Suggestion or Motivation to Modify or Combine the References

The first requirement of MPEP § 2143 is likewise not satisfied. Specifically, the rationale proffered in the Office Action (that combining Stephens with the other references would provide “an *economic* and feasible electrical machine as disclosed by Stephens”) fails

because incorporating the teachings of Stephens regarding the use of non-magnetic material with Nagate would only increase the costs of Nagate. As discussed above, Nagate teaches that the pole portions 8a (relied on in the Office Action as teaching plates according to the present invention) are part of the rotor and fixed directly to the shaft. That is, Nagate does not teach the need for fixing plates to a “rotor via a non-magnetic material,” as is conceded in the Office Action, because Nagate believes that his invention works fine without such an element. Modifying Nagate as suggested in the Office Action would increase the costs of providing the motor according to Nagate, due to, for example, the addition of parts, redesign, and extra machining. Thus, one of ordinary skill in the art would view modifying Nagate as claimed in the present invention as uneconomical. Thus, based on the economic rationale proffered in the Office Action, one of ordinary skill in the art would be discouraged from modifying Nagate.

Still further, the Stephens reference utilizes the reluctance sections 212 supported by the plates 218 to provide electromagnetic torque at the positions where the motor 102 would otherwise produce no electromagnetic torque. That is, the sections 212 are not associated with a magnetic pole position detector. Thus, one of ordinary skill in the art seeking to make a previously unknown magnetic pole position detector would not be motivated to look towards Stephens.

In summary, because of the lack of suggestion or motivation in the prior art to modify the cited references, the first requirement of MPEP § 2143 has not been met and, hence, a *prima facie* case of obviousness has not been established. Thus, claim 35 is allowable for this reason as well.

New Claims

Applicant has added new claims. Claims 36-50 are allowable for at least the reason that they depend from claim 35, an allowable claim.

Conclusion

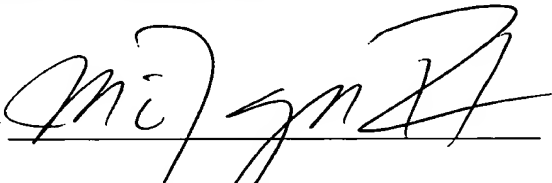
Applicant believes that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741. If any extensions of time are needed for timely acceptance of papers submitted herewith, applicant hereby petitions for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Examiner Gonzalez is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

Respectfully submitted,

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